

<b>REQUEST FOR QUOTATION</b> (This is not an order)		<b>THIS RFQ</b> <input type="checkbox"/> IS <input checked="" type="checkbox"/> IS NOT A SMALL BUSINESS SET-ASIDE			<b>PAGE OF PAGES</b> 1   12	
<b>1. REQUEST NO.</b> RFQ-RT-03-00296		<b>2. DATE ISSUED</b> 07/16/2003		<b>3. REQUISITION/PURCHASE REQUEST NO.</b> PR-RT-03-00848		<b>4. CERT. FOR NAT. DEF. UNDER BOSA REG. 2 AND/OR DMS REG. 1</b>
<b>5a. ISSUED BY</b> US EPA <b>Mail Drop:</b> E105-02 OARM SERVICE CENTER RTP PROCUREMENT OPERATIONS DIVISION RESEARCH TRIANGLE PARK, NC 27711					<b>6. DELIVER BY (Date)</b> 08/11/2003	
<b>5b. FOR INFORMATION CALL: (No collect calls)</b>  <b>Name</b> REBECCA CLAUSEN  <b>TELEPHONE NUMBER</b> (919) 541-3002      Fax: (919) 541-4273					<b>7. DELIVERY</b> <input checked="" type="checkbox"/> FOB DESTINATION <input type="checkbox"/> OTHER (See Schedule)	
					<b>9. DESTINATION</b>	
<b>8. TO:</b> <b>a. Name</b>  <b>b. Company</b>  <b>c. Street Address</b>   <b>d. City</b>  <b>e. State</b>  <b>f. Zip Code</b>					<b>a. Name of Consignee</b> US EPA <b>Mail Drop:</b> NEUROPHYSIOLOGICAL TOXIC 8512	
					<b>b. Street Address</b> RESEARCH TRIANGLE PARK  <b>c. City</b> RTP	
<b>10. PLEASE FURNISH QUOTATIONS TO THE ISSUING OFFICE IN BLOCK 5A ON OR BEFORE CLOSE OF BUSINESS (Date)</b> 08/22/2003					<b>IMPORTANT:</b> This is a request for information, and quotations furnished are not offers. If you are unable to quote, please so indicate on this form and return it to the address in Block 5A. This request does not commit the Government to pay any costs incurred in the preparation of the submission of this quotation or to contract for supplies or services. Supplies are of domestic origin unless otherwise indicated by quoter. Any representations and/or certifications attached to this request for Quotations must be completed by the quoter.	
<b>12. SCHEDULE (Include applicable Federal, State and Local taxes)</b>						
<b>ITEM NO.</b> (a)	<b>SUPPLIES/SERVICES</b> (b)		<b>QUANTITY</b> (c)	<b>UNIT</b> (d)	<b>UNIT PRICE</b> (e)	<b>AMOUNT</b> (f)
1	Project: Structural Changes in Brain Associated with Developmental Exposure to Thyrotoxic Chemicals: Evaluation of Sagittal and Coronal Sectioning Using Morphometric and Stereological Techniques. See Attached Statement of Work.  EPA Project Officer: Mary Gilbert (919) 541-4394		1	LOT		
<b>12. DISCOUNT FOR PROMPT PAYMENT</b>			<b>a.10 Calendar Days (%)</b>	<b>b.20 Calendar Days (%)</b>	<b>c.30 Calendar Days (%)</b>	<b>d. Calendar Days</b> Number      Percent
NOTE: Additional provisions and representations <input checked="" type="checkbox"/> are <input type="checkbox"/> are not attached.						
<b>13. NAME AND ADDRESS OF QUOTER</b>			<b>14. SIGNATURE OF PERSON AUTHORIZED TO SIGN QUOTATION</b>		<b>15. Date Of Quotation</b>	
<b>a. NAME OF QUOTER</b>						
<b>b. STREET ADDRESS</b>			<b>16. SIGNER</b>			
<b>c. COUNTY</b>			<b>a. NAME (Type or Print)</b>		<b>b. TELEPHONE</b> Area Code	
<b>d. CITY</b>	<b>e. STATE</b>	<b>f. ZIP CODE</b>	<b>c. TITLE (Type or Print)</b>		<b>Number</b>	

**Additional Clause(s):**

**CUSTOM**

**N.C. SALES TAX EXEMPT**

North Carolina General Statute 105-164.13(17) and Rule No. 48 Sales and Use Tax Regulations.  
EPA Federal Tax Identification Number 520852695

**EPAAR**

**1552.211-79 COMPLIANCE WITH EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT (OCT 00)**  
**COMPLIANCE WITH EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT (OCT 2000)**

(a) Definition. Information Resources Management (IRM) is defined as any planning, budgeting, organizing, directing, training, promoting, controlling, and managing activities associated with the burden, collection, creation, use and dissemination of information. IRM includes both information itself, and the management of information and related resources such as personnel, equipment, funds, and technology. Examples of these services include but are not limited to the following:

- (1) The acquisition, creation, or modification of a computer program or automated data base for delivery to EPA or use by EPA or contractors operating EPA programs.
- (2) The analysis of requirements for, study of the feasibility of, evaluation of alternatives for, or design and development of a computer program or automated data base for use by EPA or contractors operating EPA programs.
- (3) Services that provide EPA personnel access to or use of computer or word processing equipment, software, or related services.
- (4) Services that provide EPA personnel access to or use of: Data communications; electronic messaging services or capabilities; electronic bulletin boards, or other forms of electronic information dissemination; electronic record-keeping; or any other automated information services.

**EPAAR**

**1552.211-79 COMPLIANCE WITH EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT (II) (OCT 00)**

(b) General. The Contractor shall perform any IRM related work under this contract in accordance with the IRM policies, standards and procedures set forth in this clause and noted below. Upon receipt of a work request (i.e. delivery order or work assignment), the Contractor shall check this listing of directives (see paragraph (d) for electronic access). The applicable directives for performance of the work request are those in effect on the date of issuance of the work request.

- (1) IRM Policies, Standards and Procedures. The 2100 Series (2100-2199) of the Agency's Directive System contains the majority of the Agency's IRM policies, standards and procedures.
- (2) Groundwater Program IRM Requirement. A contractor performing any work related to collecting Groundwater data; or developing or enhancing data bases containing Groundwater quality data shall comply with EPA Order 7500.1A - Minimum Set of Data Elements for Groundwater.

**EPAAR**

**1552.211-79 COMPLIANCE WITH EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT (III) (OCT 00)**

(3) EPA Computing and Telecommunications Services. The Enterprise Technology Services Division (ETSD) Operational Directives Manual contains procedural information about the operation of the Agency's computing and telecommunications services. Contractors performing work for the Agency's National Computer Center or those who are developing systems which will be operating on the Agency's national platforms must comply with procedures established in the Manual. This document may be found at: <http://www.epa.gov/docs/etsdop/>.

(c) Printed Documents. Documents listed in (b)(1) and (b)(2) may be obtained from:

U.S. Environmental Protection Agency  
Office of Administration  
Facilities Management and Services Division  
Distribution Section  
Mail Code: 3204  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460  
Phone: (202) 260-5797

(d) Electronic Access. A complete listing, including full text, of documents included in the 2100 Series of the Agency's Directive System is maintained on the EPA Public Access Server on the Internet at <http://epa.gov/docs/irmpoli8/>.

\*\*\*\*end of clause\*\*\*\*

**FAR A**

**52.212-1 Instructions to Offerors-Commercial Items (OCT 00)**

(a) (1) North American Industry Classification System (NAICS) code and small business size standard. The NAICS code and small business size standard for this acquisition is \_\_\_\_\_ (insert NAICS code).

(2) The small business size standard is \_\_\_\_\_ (size standard).

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Submission of offers. Submit signed and dated offers to the office specified in this solicitation at or before the exact time specified in this solicitation. Offers may be submitted on the Standard Form 18, letterhead stationery, or as otherwise specified in the solicitation. As a minimum, offers must show--

- (1) The solicitation number;
- (2) The time specified in the solicitation for receipt of offers;
- (3) The name, address, and telephone number of the offeror;
- (4) A technical description of the items being offered in sufficient detail to evaluate compliance with the requirements in the solicitation. This may include product literature, or other documents, if necessary;
- (5) Terms of any express warranty;
- (6) Price and any discount terms;
- (7) "Remit to" address, if different than mailing address;
- (8) A completed copy of the representations and certifications at FAR 52.212-3;
- (9) Acknowledgment of Solicitation Amendments;
- (10) Past performance information, when included as an evaluation factor, to include recent and relevant contracts for the same or similar items and other references (including contract numbers, points of contact with telephone numbers and other relevant information); and
- (11) If the offer is not submitted on the SF 1449, include a statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation. Offers that fail to furnish required representations or informat

**FAR B 52.212-1 Instructions to Offerors-Commercial Items (Continued 2) (OCT 00)**

- (c) Period for acceptance of offers. The offeror agrees to hold the prices in its offer firm for 30 calendar days from the date specified for receipt of offers, unless another time period is specified in an addendum to the solicitation.
- (d) Product samples. When required by the solicitation, product samples shall be submitted at or prior to the time specified for receipt of offers. Unless otherwise specified in this solicitation, these samples shall be submitted at no expense to the Government, and returned at the sender's request and expense, unless they are destroyed during preaward testing.
- (e) Multiple offers. Offerors are encouraged to submit multiple offers presenting alternative terms and conditions or commercial items for satisfying the requirements of this solicitation. Each offer submitted will be evaluated separately.
- (f) Late submissions, modifications, revisions, and withdrawals of offers. (1) Offerors are responsible for submitting offers, and any modification, revisions, or withdrawals, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that offers or revisions are due.
- (2)(i) Any offer, modification, revision, or withdrawal of an offer received at the Government office designated in the solicitation after the exact time specified for receipt of offers is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines authorized representative if, before the exact time set for receipt of offers, the identity of the person requesting withdrawal is established and the person signs a receipt for the offer.

**FAR C 52.212-1 Instructions to Offerors-Commercial Items (Continued 3) (OCT 00)**

- (A) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of offers; or
- (B) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or
- (C) If this solicitation is a request for proposals, it was the only proposal received.
- (ii) However, a late modification of an otherwise successful offer, that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.
- (3) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the offer wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.
- (4) If an emergency or unanticipated event interrupts normal Government processes so that offers cannot be received at the Government office designated for receipt of offers by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation or other notice of an extension of the closing date, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

**FAR D 52.212-1 Instructions to Offerors-Commercial Items (Continued 4) (OCT 00)**

- (5) Offers may be withdrawn by written notice received at any time before the exact time set for receipt of offers. Oral offers in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before the exact time set for receipt of offers, subject to the conditions specified in the solicitation concerning facsimile offers. An offer may be withdrawn in person by an offeror or its authorized representative if, before the exact

time set for receipt of offers, the identity of the person requesting withdrawal is established and the person signs a receipt for the offer.

(g) Contract award (not applicable to Invitation for Bids). The Government intends to evaluate offers and award a contract without discussions with offerors. Therefore, the offeror's initial offer should contain the offeror's best terms from a price and technical standpoint. However, the Government reserves the right to conduct discussions if later determined by the Contracting Officer to be necessary. The Government may reject any or all offers if such action is in the public interest; accept other than the lowest offer; and waive informalities and minor irregularities in offers received.

(h) Multiple awards. The government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. Unless otherwise provided in the Schedule, offers may not be submitted for quantities less than those specified. The Government reserves less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit prices offered, unless the offeror specifies otherwise in the offer.

**FAR E 52.212-1 Instructions to Offerors-Commercial Items (Continued 5) (OCT 00)**

(i) Availability of requirements documents cited in the solicitation. (1)(i) The GSA Index of Federal Specifications, Standards and Commercial Item Description, FPMR Part 101-29, and Copies of specification, standa

GSA Federal Supply Service Specifications Section  
Suite 8100  
470 East L'Enfant Plaza, SW  
Washington, DC 20407

Telephone (202) 619-8925  
Facsimile (202) 619-8978.

(ii) If the General Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specification, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (i)(1)(i) of this provision. Additional copies will be issued for a fee.

(2) The DoD Index of Specifications and Standards (DoDISS) and documents listed in it may be obtained from the--

Department of Defense Single Stock Point (DoDSSP)  
Building 4, Section D  
700 Robbins Avenue  
Philadelphia, PA 19111-5094

Telephone (215) 697-2667/2179  
Facsimile (215) 697-1462.

**FAR F 52.212-1 Instructions to Offerors-Commercial Items (Continued 6) (OCT 00)**

(i) Automatic distribution may be obtained on a subscription basis.

(ii) Order forms, pricing information, and customer support information may be obtained--

(A) By telephone at (215) 697-2667/2179; or

(B) Through the DoDSSP Internet site at <http://assist.daps.mil>.

(3) Nongovernment (voluntary) standards must be obtained from the organization responsible for their preparation, publication, or maintenance.

(j) Data Universal Numbering System (DUNS) Number. (Applies to offers exceeding \$25,000.) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" followed by the DUNS number that identifies the offeror's name and address. If the offeror does not have a DUNS number, it should contact Dun and Bradstreet to obtain one at no charge. An offeror within the United States may call 1-800-333-0505. The offeror may obtain more information regarding the DUNS number, including locations of local Dun and Bradstreet Information Services offices for offerors located outside the United States, from the Internet home page at <http://www.dnb.com/>. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at [globalinfo@mail.dnb.com](mailto:globalinfo@mail.dnb.com).

**FAR F 52.212-3 Offeror Representations and Certifications-Commercial Items (Continued 6) (JUL 03)**

(a) Definitions. As used in this provision:

"Emerging small business" means a small business concern whose size is no greater than 50 percent of the numerical size standard for the NAICS code designated.

"Forced or indentured child labor" means all work or service-

(1) Exacted from any person under the age of 18 under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily; or

(2) Performed by any person under the age of 18 pursuant to a contract the enforcement of which can be accomplished by process or penalties.

"Service-disabled veteran-owned small business concern"-

(1) Means a small business concern-

(i) Not less than 51 percent of which is owned by one or more service-disabled Veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern" means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and size standards in this solicitation.

"Veteran-owned small business concern" means a small business concern-

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101

(2) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and in the case of any publicly owned business, at least 51 percent

**FAR G**

**52.212-3 Offeror Representations and Certifications-Commercial Items Continued2 (JUN 03)**

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned business concern" means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

"Women-owned small business concern" means a small business concern-

(1) That is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(b) Taxpayer Identification Number (TIN) (26 U.S.C. 6109, 31 U.S.C. 7701). (Not applicable if the offeror is required to provide this information to a central contractor registration database to be eligible for award.)

(1) All offerors must submit the information required in paragraphs (b)(3) through (b)(5) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the Internal Revenue Service (IRS).

(2) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

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**52.212-3 Offeror Representations and Certifications-Commercial Items Continued3 (JUN 03)**

(3) Taxpayer Identification Number (TIN).

\_\_\_ TIN: \_\_\_\_\_.

\_\_\_ TIN has been applied for.

\_\_\_ TIN is not required because:

\_\_\_ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

\_\_\_ Offeror is an agency or instrumentality of a foreign government;

\_\_\_ Offeror is an agency or instrumentality of the Federal Government.

(4) Type of organization.

\_\_\_ Sole proprietorship;

\_\_\_ Partnership;

\_\_\_ Corporate entity (not tax-exempt);

\_\_\_ Corporate entity (tax-exempt);

- ☐ Government entity (Federal, State, or local);
- ☐ Foreign government;
- ☐ International organization per 26 CFR 1.6049-4;
- ☐ Other \_\_\_\_\_.

(5) Common parent.

☐ Offeror is not owned or controlled by a common parent;

☐ Name and TIN of common parent:

Name \_\_\_\_\_.

TIN \_\_\_\_\_.

(c) Offerors must complete the following representations when the resulting contract will be performed in the United States or its outlying areas. Check all that apply.

(1) Small business concern. The offeror represents as part of its offer that it ☐ is, ☐ is not a small business concern.

(2) Veteran-owned small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as part of its offer that it ☐ is, ☐ is not a veteran-owned small business concern.

(3) Service-disabled veteran-owned small business concern. [Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(2) of this provision.] The offeror represents as part of its offer that it ☐ is, ☐ is not a service-disabled v

**FAR I 52.212-3 Offeror Representations and Certifications-Commercial Items Continued4 (JUN 03)**

(c) Offerors must complete the following representations when the resulting contract will be performed in the United States or its outlying areas. Check all that apply.

(1) Small business concern. The offeror represents as part of its offer that it ☐ is, ☐ is not a small business concern.

(2) Veteran-owned small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as part of its offer that it ☐ is, ☐ is not a veteran-owned small business concern.

(3) Service-disabled veteran-owned small business concern. [Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(2) of this provision.] The offeror represents as part of its offer that it ☐ is, ☐ is not a service-disabled veteran-owned small business concern.

(4) Small disadvantaged business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents, for general statistical purposes, that it ☐ is, ☐ is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(5) Women-owned small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it ☐ is, ☐ is not a women-owned small business concern.

Note: Complete paragraphs (c)(6) and (c)(7) only if this solicitation is expected to exceed the simplified acquisition threshold.

(6) Women-owned business concern (other than small business concern). [Complete only if the offeror is a women-owned business concern and did not represent itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it ☐ is a women-owned business concern.

**FAR J 52.212-3 Offeror Representations and Certifications-Commercial Items Continued5 (JUN 03)**

(7) Tie bid priority for labor surplus area concerns. If this is an invitation for bid, small business offerors may identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of the contract price: \_\_\_\_\_

(8) Small Business Size for the Small Business Competitiveness Demonstration Program and for the Targeted Industry Categories under the Small Business Competitiveness Demonstration Program. [Complete only if the offeror has represented itself to be a small business concern under the size standards for this solicitation.]

(i) [Complete only for solicitations indicated in an addendum as being set-aside for emerging small businesses in one of the four designated industry groups (DIGs).] The offeror represents as part of its offer that it ☐ is, ☐ is not an emerging small business.

(ii) [Complete only for solicitations indicated in an addendum as being for one of the targeted industry categories (TICs) or four designated industry groups (DIGs).] Offeror represents as follows:

(A) Offeror's number of employees for the past 12 months (check the Employees column if size standard stated in the solicitation is expressed in terms of number of employees); or

(B) Offeror's average annual gross revenue for the last 3 fiscal years (check the Average Annual Gross Number of Revenues column if size standard stated in the solicitation is expressed in terms of annual receipts).

**FAR K 52.212-3 Offeror Representations and Certifications-Commercial Items Continued6 (JUN 03)**

(Check one of the following):

Number of Employees      Average Annual Gross Revenues

☐ 50 or fewer

☐ \$1 million or less

___ 51-100	___ \$1,000,001-\$2 million
___ 101-250	___ \$2,000,001-\$3.5 million
___ 251-500	___ \$3,500,001-\$5 million
___ 501-750	___ \$5,000,001-\$10 million
___ 751-1,000	___ \$10,000,001-\$17 million
___ Over 1,000	___ Over \$17 million

(9) [Complete only if the solicitation contains the clause at FAR 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns, or FAR 52.219-25, Small Disadvantaged Business Participation Program-Disadvantaged Status and Reporting, and the offeror desires a benefit based on its disadvantaged status.]

(i) General. The offeror represents that either-

(A) It \_\_\_ is, \_\_\_ is not certified by the Small Business Administration as a small disadvantaged business concern and identified, on the date of this representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (PRO-Net), and that no material change in disadvantaged ownership and control has occurred since its certification, and, where the concern is owned by one or more individuals claiming disadvantaged status, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); or

(B) It \_\_\_ has, \_\_\_ has not submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantage business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

**FAR L 52.212-3 Offeror Representations and Certifications-Commercial Items Continued7 (JUN 03)**

(ii) \_\_\_ Joint Ventures under the Price Evaluation Adjustment for Small Disadvantaged Business Concerns. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements in 13 CFR 124.1002(f) and that the representation in paragraph (c)(9)(i) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. [The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: \_\_\_\_\_.]

(10) HUBZone small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents, as part of its offer, that-

(i) It \_\_\_ is, \_\_\_ is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It \_\_\_ is, \_\_\_ is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (c)(10)(i) of this provision is accurate for the BZone small business concern or concerns that are participating in the joint venture. [The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture: \_\_\_\_\_.] Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(d) Representations required to implement provisions of Executive Order 11246-

**FAR M 52.212-3 Offeror Representations and Certifications-Commercial Items Continued8 (JUN 03)**

(1) Previous contracts and compliance. The offeror represents that-

(i) It \_\_\_ has, \_\_\_ has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation; and

(ii) It \_\_\_ has, \_\_\_ has not filed all required compliance reports.

(2) Affirmative Action Compliance. The offeror represents that-

(i) It \_\_\_ has developed and has on file, \_\_\_ has not developed and does not have on file, at each establishment, affirmative action programs required by rules and regulations of the Secretary of Labor (41 CFR parts 60-1 and 60-2), or

(ii) It \_\_\_ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(e) Certification Regarding Payments to Influence Federal Transactions (31 U.S.C. 1352). (Applies only if the contract is expected to exceed \$100,000.) By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract.

(f) Buy American Act Certificate. (Applies only if the clause at Federal Acquisition Regulation (FAR) 52.225-1, Buy American Act-Supplies, is included in this solicitation.)

(1) The offeror certifies that each end product, except those listed in paragraph (f)(2) of this provision, is a domestic end product and that the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The offeror shall list as foreign end products those end products manufactured in the United States that do not qualify as domestic end products. The terms "component," "domestic end product," "end product,"

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**(2) Foreign End Products:**

Line Item No.	Country of Origin
_____	_____
_____	_____
_____	_____

[List as necessary]

(3) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(g)(1) Buy American Act-North American Free Trade Agreement-Israeli Trade Act Certificate. (Applies only if the clause at FAR 52.225-3, Buy American Act-North American Free Trade Agreement-Israeli Trade Act, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(1)(ii) or (g)(1)(iii) of this provision, is a domestic end product and that the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The terms "component," "domestic end product," "end product," "foreign end product," and "United States" are defined in the clause of this solicitation entitled "Buy American Act-North American Free Trade Agreement-Israeli Trade Act."

(ii) The offeror certifies that the following supplies are NAFTA country end products or Israeli end products as defined in the clause of this solicitation entitled "Buy American Act-North American Free Trade Agreement-Israeli Trade Act":

NAFTA Country or Israeli End Products:  
Line Item No. Country of Origin

_____	_____
_____	_____
_____	_____

[List as necessary]

(iii) The offeror shall list those supplies that are foreign end products (other than those listed in paragraph (g)(1)(ii) of this provision) as defined in the clause of this solicitation entitled "Buy American Act-North American Free Trade Agreement-Israeli Trade Act." The offeror shall list as other foreign end products those end products manufactured in the Unit

**FAR O 52.212-3 Offeror Representations and Certifications-Commercial Items Continued10 (JUN 03)**

**Other Foreign End Products:**

Line Item No.	Country of Origin
_____	_____
_____	_____
_____	_____

[List as necessary]

(iv) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(2) Buy American Act-North American Free Trade Agreements-Israeli Trade Act Certificate, Alternate I (May 2002): If Alternate I to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products as defined in the clause of this solicitation entitled "Buy American Act-North American Free Trade Agreement-Israeli Trade Act":

Canadian End Products:  
Line Item No.

_____
_____
_____

[List as necessary]

(3) Buy American Act-North American Free Trade Agreements-Israeli Trade Act Certificate, Alternate II (May 2002). If Alternate II to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products or Israeli end products as defined in the clause of this solicitation entitled "Buy American Act-North American Free Trade Agreement-Israeli Trade Act":

Canadian or Israeli End Products:  
Line Item No. Country of Origin

_____	_____
-------	-------

\_\_\_\_\_  
\_\_\_\_\_  
[List as necessary]

**FAR P**

**52.212-3 Offeror Representations and Certifications-Commercial Items Continued 11 (JUN 03)**

(4) Trade Agreements Certificate. (Applies only if the clause at FAR 52.225-5, Trade Agreements, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(4)(ii) of this provision, is a U.S.-made, designated country, Caribbean Basin country, or AFTA country end product, as defined in the clause of this solicitation entitled "Trade Agreements."

(ii) The offeror shall list as other end products those end products that are not U.S.-made, designated country, Caribbean Basin country, or NAFTA country end products

Other End Products:

Line Item No.	Country of Origin
_____	_____
_____	_____
_____	_____

\_\_\_\_\_  
\_\_\_\_\_  
[List as necessary]

(iii) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25. For line items subject to the Trade Agreements Act, the Government will evaluate offers of U.S.-made, designated country, Caribbean Basin country, or NAFTA country end products without regard to the restrictions of the Buy American Act. The Government will consider for award only offers of U.S.-made, designated country, Caribbean Basin country, or NAFTA country end products unless the Contracting Officer determines that there are no offers for such products or that the offers for such products are insufficient to fulfill the requirements of the solicitation.

(h) Certification Regarding Debarment, Suspension or Ineligibility for Award (Executive Order 12549). (Applies only if the contract value is expected to exceed the simplified acquisition threshold.) The offeror certifies, to the best of its knowledge and belief, that the offeror and/or any of its principals-

**FAR P.1**

**52.212-3 Offeror Representations and Certifications-Commercial Item Continued 11.1 (JUN 03)**

(1) \_\_\_\_\_ Are, \_\_\_\_\_ are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency; and

(2) \_\_\_\_\_ Have, \_\_\_\_\_ have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Federal, state or local government contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(3) \_\_\_\_\_ Are, \_\_\_\_\_ are not presently indicted for, or otherwise criminally or civilly charged by a Government entity with, commission of any of these offenses.

**FAR P.2**

**52.212-3 Offeror Representations and Certifications-Commercial Item Continued 11.2 (JUN 03)**

(i) Certification Regarding Knowledge of Child Labor for Listed End Products (Executive Order 13126). [The Contracting Officer must list in paragraph (i)(1) any end products being acquired under this solicitation that are included in the List of Products Requiring Contractor Certification as to Forced or Indentured Child Labor, unless excluded at 22.1503(b).]

(1) Listed end products.

Listed End Product	Listed Countries of Origin
_____	_____
_____	_____

(2) Certification. [If the Contracting Officer has identified end products and countries of origin in paragraph (i)(1) of this provision, then the offeror must certify to either (i)(2)(i) or (i)(2)(ii) by checking the appropriate block.]

[ ] (i) The offeror will not supply any end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product.

[ ] (ii) The offeror may supply an end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product. The offeror certifies that it has made a good faith effort to determine whether forced or indentured child labor was used to mine, produce, or manufacture any such end product furnished under this contract. On the basis of those efforts, the offeror certifies that it is not aware of any such use of child labor.

**FAR e**

**52.212-2 Evaluation-Commercial Items (Jan 1999) (JAN 99)**

(a) The Government will award a contract resulting from this solicitation to the responsible offeror whose offer, conforming to the solicitation, will be most advantageous to the Government, price and other factors considered. The following factors shall be used to evaluate offers:

Price and Past Performance. As part of their offer, the offeror is to detail his/her past performance in regard to efforts similar to that proposed for this award. Such performance may be with the key researcher's current organization/affiliation, or with any prior firm/organization. A point-of-contact and phone number should be provided for each distinct study or effort detailed. The offeror's Past Performance will be assessed for similarity to the proposed effort, based on the following parameters:

- a. Annual Dollar Value
- b. Length of Contract
- c. Quality of Sectioning, Staining
- d. Immunohistochemistry experience in Brain Tissue, particularly in hippocampus with specific biomarkers required in contract.
- e. Demonstrated expertise in hippocampal anatomy and function
- f. Experience in assessing developmentally-induced brain insult.

Past Performance is more important than Price.

(b) Options. The Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. The Government may determine that an offer is unacceptable if the option prices are significantly unbalanced. Evaluation of options shall not obligate the Government to exercise the option(s).

(c) A written notice of award or acceptance of an offer, mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer, shall result in a binding contract without further action by either party. Before the offer's specified expiration time, the Government may accept an offer (or part of an offer), whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received.

**DATE:** June 10, 2003

**PROGRAM OFFICE:** NHEERL-NTD

**EPA PROJECT OFFICER:**

Mary E. Gilbert (919) 541-4394  
U S Environmental Protection Agency  
National Health & Environmental Effects Research Lab  
MD-B105-05  
Research Triangle Park, North Carolina

**PROJECT IDENTIFICATION:**

Structural Changes in Brain Associated with Developmental  
Exposure To Thyrotoxic Chemicals: Evaluation of Sagittal and  
Coronal Sectioning Using Morphometric and Stereological  
Techniques

**PROJECT DESCRIPTION:**

See Statement of Work enclosed

**PERIOD OF PERFORMANCE:**

Upon award of the contract to December, 2004

## **BACKGROUND AND SIGNIFICANCE**

Thyroid hormones are essential for normal behavioral, intellectual, and neurological development. Severe congenital hypothyroidism results in irreversible structural damage and mental retardation in children (Porterfield, 1992). However, more moderate forms of thyroid dysfunction are not without consequence (Haddow et al., 1999; Pop et al., 1999). It is well established that several classes of environmental contaminants can affect thyroid gland morphology and/or hormonal status. Current models of developmental hypothyroidism reveal frank structural damage in brain, most markedly in the corpus callosum, cerebellum, neocortex, and hippocampus (Madeira et al., 1990; 1992). Such structural abnormalities are associated with behavioral dysfunction in tasks dependent upon these brain areas (Davenport et al., 1976; Erwin et al., 2000). Little data is available on neurophysiological indices of synaptic function and plasticity following thyroid hormone the morphological consequences of milder forms of thyroid hormone dysfunction have remained relatively unexplored.

The specific aim of this contract is to identify the presence or absence of structural abnormalities in two brain regions, the corpus callosum and the hippocampus in animals developmentally challenged with thyrotoxic chemicals. Definition of the dose-response relationship and the association of these structural alterations to functional deficits in synaptic function will be examined through data generated in this contract and ongoing research efforts within NTD. The relative sensitivity of coronal vs sagittal sectioning planes will be compared to identify abnormalities in corpus callosal structure. Coronal sections throughout the hippocampus will be stained with nissl stains to identify gross abnormalities and more subtle changes will be assessed using standard morphometric techniques. In addition, more sophisticated assessments of area and volume of pyramidal cell fields and dentate gyrus of the hippocampal formation will be performed as these regions are currently under investigation for neurophysiological integrity in NTD laboratories. Finally, based on data from neurophysiological studies, specialized immunohistochemical staining will be performed on coronal sections of hippocampus to examine synaptic integrity using antibodies that identify synapses in area CA1 and dentate gyrus (eg. synaptophysin). A second series of sections will be stained for calbindin, a calcium binding protein expressed in granule cells at specific developmental windows. Changes in the thickness of the granule cell layer staining with this antibody are indicative of a developmental delay. Inhibitory function is also altered in hippocampus following developmental hypothyroidism, so interneurons, the cell type mediating synaptic inhibition, will be examined using a immunohistochemical staining procedures for parvalbumin, a protein selectively located within inhibitory interneurons.

Brain measurements using standard morphometric techniques are evaluated as part of EPA's risk assessment for developmental neurotoxicants. A direct comparison of the sensitivity of sagittal vs coronal sectioning for midline structures has not been conducted. This study will provide information on the relative sensitivity of these sectioning protocols for the corpus callosum. In addition, the degree to which standard morphometric parameters routinely measured in DNT studies are sensitive to more subtle changes in brain morphology will also be provided

by comparisons with stereological estimates of structure size, volume, area.

The second phase of the contract is designed to provide data on specific cell markers in the hippocampus whose expression may contribute to the physiological impairments seen in animals exposed to developmental thyrotoxicants.

## **STATEMENT OF WORK**

**Stereological and morphometric assessments of hippocampus and corpus callosum using standard Nissl staining procedures and specialized immunohistochemical techniques in rats treated throughout gestation and lactation with thyrotoxic chemicals**

### **BACKGROUND:**

Ongoing research within NTD is designed to characterize the functional consequences of developmental hypothyroidism induced by environmental toxicant exposure on the central nervous system (CNS). Current models of hypothyroidism identify specific brain regions that are vulnerable to severe thyroid insult, but little information is available on more mild forms of developmental hypothyroidism. Risk assessments for thyroid hormone disruption are hampered by an inability to designate adversity, i.e., to describe the degree to which thyroid hormone must be perturbed in the developing organism to produce neurological deficits. This is owing to inadequate dose-response characterization and a fundamental lack of understanding of the mechanistic links between decreases in thyroid hormone and changes in brain function (US EPA, 1998). Environmental insults produce less severe forms of hypothyroxenemia/hypothyroidism than those described in extant literature on thyroid dysfunction and thus the adverse effects associated with these milder types of insults have yet to be identified. Evidence has been accumulating to indicate that low level maternal thyroid hormone deficiencies in humans can lead to decrements in intellectual function in children, despite normal thyroid function at birth (Haddow et al., 1999; Morreale de Escobar et al., 2000; Pop et al., 1999). The overall aim of the present project is to assess the long-term neurological consequences of compounds that produce different magnitudes of thyroid dysfunction by distinct mechanisms during critical periods of brain development. It is unclear which endpoints may be the most sensitive to mild insults induced by modest degrees of hormonal insufficiency. Functional assessments of synaptic transmission in the hippocampus are being conducted. Such assessments are not currently part of the battery of tests used to determine developmental neurotoxicity. However, if these functional impairments are reflected in structural changes, morphological endpoints currently assessed in DNT testing guidelines may be sufficient to identify neurotoxicity.. Data generated in this contract will permit a comparison of the relative sensitivity of current guideline conducted brain morphometry evaluations with functional assessments. In addition, the efficacy of additional more refined analyses (e.g., sagittal sectioning, stereological estimates, immunocytochemistry) will be evaluated.

**SIGNIFICANCE:** Identification of the neurological consequences of mild perturbations of thyroid hormone function during pregnancy and early postnatal life is of critical importance to the Agency. It is clear that severe reductions in thyroid hormone induce neurological deficits, but it is not known if more subtle changes in neurological function induced by modest perturbations in hormonal status

are reflected in structural abnormalities.

#### **TASKS:**

**One: Sagittal Sectioning and Evaluation of Width, Length and Volume of Corpus Callosum**  
Brains of 10 animals from each of 4 dose groups at PND21 will be cut along the midline, and the right hemisphere sectioned along the sagittal plane in 50 $\mu$  steps. All sections will be saved, mounted on glass slides, and stained with cresyl violet. Sections will be evaluated using stereological techniques and the linear length, width at 3 anterior/posterior plane will be estimated on each section. Corpus callosum will be outlined on the first 5 sections from the midline and volume estimates calculated. The measurement data are to be provided as images and as tabular data in an importable spreadsheet format such as an Excel $\text{\textcircled{C}}$  Spreadsheet. A report (in Word or WordPerfect) will include a summary of the findings and rudimentary statistical analyses.

**Two and Three: Coronal Sectioning and Evaluation of Corpus Callosum and Hippocampus**  
The remaining hemisphere of brains of 10 animals from each of 4 dose groups at PND21 (Task 2) and PND80 (Task 3) will be sectioned along the coronal plane. All sections will be cut at 50 $\mu$  and saved in bins such that each bin contains every 5<sup>th</sup> section (mean inter section distance is 250 $\mu$ ). Sections from one bin will be mounted on glass slides in anterior-posterior order and stained with cresyl violet and coverslipped. The width of the corpus callosum will be estimated on each section to be compared with treatment-induced changes in of corpus callosum size estimated from sagittal sections in Task One. In addition, width, length, area, volume of pyramidal cell fields and dentate gyrus of the hippocampal formation will be measured using a commercially available stereological software system. The measurements will be provided as images and as tabular data in Excel $\text{\textcircled{C}}$  Spreadsheet and a report will include a summary of the findings and rudimentary statistical analyses.

**Four and Five: Immunohistochemical Staining of Hippocampus with Synaptophysin**  
Sections from the second bin cut in the coronal plane under Tasks 2 and 3 for PND21 and PND80 will be stained for synaptophysin using immunocytochemical techniques. Synaptophysin is a protein located in presynaptic terminals and thus serves to identify synapses within the dendritic areas of area CA1 and dentate gyrus. Following staining of free floating sections, sections will be mounted on glass slides in anterior-posterior order and coverslipped. Intensity of staining for this synaptic marker will be compared across dose groups in two hippocampal subregions across two age groups. The measurements will be provided as images and as tabular data in Excel $\text{\textcircled{C}}$  Spreadsheet. A second report will include a summary of the findings and rudimentary statistical analyses.

**Six and Seven: Immunohistochemical Staining of Hippocampus with Calbindin**  
Sections from the third bin cut in the coronal plane under Tasks 2 and 3 for PND21 and PND80 brains will be stained for calbindin, a calcium-binding protein whose developmental expression in the dentate gyrus provides an estimate of granule layer maturity. The granule cells of the dentate gyrus of the rat develop postnatally. Older cells express the calcium binding protein calbindin while immature granule cells do not. Staining for calbindin can be used to assess whether development of the granule cell layer has been delayed. Standard immunocytochemical staining in free floating sections will be conducted with commercially available antibodies for calbindin. Following staining

sections will be mounted on glass slides in anterior-posterior order and coverslipped. The width of the granule cell layer staining positively and negatively for calbindin will be compared across dose groups in PND21 brains. A reduction in calbindin-positive staining is indicative of a developmental delay in this primarily postnatal-developing portion of the hippocampus. PND80 brains will be stained and evaluated to determine recovery from developmental delay and for control purposes. The measurements will be provided as images and as tabular data in Excel® Spreadsheet and a report will be generated and include a summary of the findings and rudimentary statistical analyses.

#### **Eight and Nine: Immunohistochemical Staining of Hippocampus with Parvalbumin**

Sections from the third bin cut in the coronal plane under Tasks 2 and 3 for PND21 and PND80 will be stained for parvalbumin using immunocytochemical techniques. Parvalbumin is a protein located exclusively in interneurons containing the inhibitory transmitter gamma-amino-butyric acid (GABA) and is critical for the control of excitability within the hippocampus. Electrophysiological studies have revealed perturbations in inhibitory function within both hippocampal subfields. Following staining of free floating sections, sections will be mounted on glass slides in anterior-posterior order and coverslipped. The number of parvalbumin-positive stained neurons will be counted in the dendritic and somatic regions of area CA1, the dendritic and somatic fields of the dentate gyrus, and in the hilus of the dentate gyrus. The measurements will be provided as images and as tabular data in Excel® Spreadsheet and a report generated to include a summary of the findings and rudimentary statistical analyses.

#### **ACCEPTANCE CRITERIA:**

The Contractor shall provide a high-quality technical report and be available to discuss the findings and technical approach. The report will adhere to the tenets of proper grammar usage and spelling, and will be of an overall scientific quality similar to that demonstrated in top tier peer reviewed journals. The report shall be delivered no later than 30 days after completion of study.

#### **QUALITY ASSURANCE:**

A Quality Assurance narrative statement shall be required in the final report as to the adequacy of data utilized in developing the report. The contractor shall adhere to Standard Operating Procedures established in his laboratory for blocking, sectioning, mounting and staining of tissue. Sections will be matched across animals for dorsal/ventral positioning. Staining will be done in batches with dose groups counterbalanced within individual runs. Sections shall be evaluated by the contractor for plane of cut and consistency of staining. Digitized images will be saved on disk and provided to the EPA upon completion of the project. Summary statistics will be provided and appropriate statistical evaluation of the quantitative data shall be provided by the contractor. All raw data shall be delivered to the EPA upon completion of the project.